

PRUDNIKOV, A.P. [Prudnikau, A.P.]

Mass and heat exchange during heating and reying fuels in power
installations. Vestsi AN BSSR Ser.fiz.-tekhn.nav. no.5:11-23
'58.

(MIRA 11:10)

(Mass transfer) (Heat exchangers)

PRUDNIKOV, A.P.

Investigating heat and mass transfer in dispersion media. Inzh.-fiz.
zhur. no.4:81-86 Ap '58. (MIRA 11:7)

1. Vychislitel'nyy tsentr AN SSSR, g. Moskva.
(Heat--Radiation and absorption) (Mass transfer)

SOV/24-58-10-10/34

AUTHOR: Prudnikov, A. P. (Moscow)

TITLE: Analytical Study of Processes of Heat and Mass Exchange During Convective Drying (Analiticheskoye issledovaniye protsessov teplo-i massoobmena pri konvektivnoy sushke)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, 1958, Nr 10, pp 63-67 (USSR)

ABSTRACT: The following differential equation is solved:

$$\frac{\partial \theta_1}{\partial t} = a_1 \frac{\partial^2 \theta_1}{\partial x^2} + b_1 \frac{\partial \theta_2}{\partial t}, \quad \frac{\partial \theta_2}{\partial t} = a_2 \frac{\partial^2 \theta_2}{\partial x^2} + b_2 \frac{\partial^2 \theta_1}{\partial x^2} \quad (1)$$

$$(a_1 + b_1 b_2 + a_2)^2 \neq 4a_1 a_2$$

subject to initial conditions:

$$\theta_1(x, 0) = f_1(x), \quad \theta_2(x, 0) = f_2(x) \quad (0 < x < l) \quad (2)$$

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SOV/24-58-10-10/34

Analytical Study of Processes of Heat and Mass Exchange
and the boundary conditions:

$$\frac{\partial \theta_1(0, t)}{\partial x} = \frac{\partial \theta_2(0, t)}{\partial x} = 0 \quad (3)$$

$$\frac{\partial \theta_1(l, t)}{\partial x} + \alpha \theta_1(l, t) + \beta \theta_2(l, t) = \varphi_1(t)$$

$$\frac{\partial \theta_2(l, t)}{\partial x} + \gamma \frac{\partial \theta_1(l, t)}{\partial x} + \delta \theta_2(l, t) = \varphi_2(t) \quad (4)$$

where θ_1 is the temperature, θ_2 is the potential of mass transport, x is the space coordinate, t is time, a_1 , a_2 , b_1 , b_2 , α , β , γ , and δ are well-known (Ref.1) constants, $f_s(x)$, $\varphi_s(t)$ ($s = 1, 2$) are

Card 2/3

SOV/24-58-10-10/34

Analytical Study of Processes of Heat and Mass Exchange

arbitrary bounded integrable functions of their arguments.
The functions:

$$\theta_1(\zeta, t) = \phi_1(t), \quad \theta_2(\zeta, t) = \phi_2(t) \quad (5)$$

are considered as given and may be found by the method described in Ref.5. The above differential equations are solved, using Fourier and Laplace transformations and explicit expressions for the solutions are given (Eqs.12 and 13). A. V. Lykov is thanked for his interest in this work. There are no figures and 5 references, of which 4 are Soviet and 1 Dutch.

SUBMITTED: April 18, 1958.

Card 3/3

AUTHOR:

Prudnikov, A.P.

SOV/20-120-2-6/63

TITLE:

Solution of a Mixed Boundary Value Problem of the Theory of
Thermodiffusion (Resheniye odnoy smeshannoy krayevoy zadachi
teorii termodiffuzii)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 2, pp 249-251 (USSR)

ABSTRACT: The author considers the boundary value problem

$$(1) \quad \frac{\partial u_1}{\partial t} = a_1 \frac{\partial^2 u_1}{\partial x^2} + b_1 \frac{\partial u_2}{\partial t}, \quad \frac{\partial u_2}{\partial t} = a_2 \frac{\partial^2 u_2}{\partial x^2} + b_2 \frac{\partial^2 u_1}{\partial x^2}$$

$$(a_1 + b_1 b_2 + a_2)^2 \neq 4a_1 a_2$$

with the initial conditions

$$(2) \quad u_i(x, 0) = f_i(x) \quad 0 < x < 1$$

and the boundary conditions

$$(3) \quad a_{11}u_1(0, t) + a_{12}u_2(0, t) + a_{13} \frac{\partial u_1(0, t)}{\partial x} + a_{14} \frac{\partial u_2(0, t)}{\partial x} = \tilde{\pi}_1(t)$$

Card 1/2 etc. The unknown functions

SOV

Solution of a Mixed Boundary Value Problem of the Theory of /20-120-2-6/63
Thermocdiffusion

$$(4) \quad u_i(0,t) = \varphi_i(t) \quad \text{and} \quad u_i(1,t) = \psi_i(t)$$

at first are assumed to be given. With the aid of the Fourier-
and Laplace transformation the solution of (1),(2),(4) is
determined as the sum of certain integrals. Then (3) is used
for the determination of the functions φ_i and ψ_i ; that leads
to a system of Volterra equations which can be solved according
to well-known methods.

There are 4 references, which are Soviet.

ASSOCIATION: Vychislitel'nyy tsentr Akademii nauk SSSR (Calculating Center
of the Academy of Sciences of the USSR)

PRESENTED: December 3, 1957, by A.A. Dorodnitsyn, Academician

SUBMITTED: December 2, 1957

1. Transformations(Mathematics 2. Functions 3. Heat--Diffussion

Card 2/2

SOV/24-59-1-20/35

AUTHOR: Murashko, M.G., and Prudnikov, A.P., (Minsk, Moscow)

TITLE: The Theory of Liquid Movement in Soil (K teorii fil'tratsii zhidkosti v gruntakh)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, Energetika i Avtomatika, 1959, Nr 1, pp 119-121 (USSR)

ABSTRACT: Continuation of M.G.Murashko's previous work (Ref 2). The differential equations for liquid movement, allowing for osmotic swelling and capillary absorption, are quoted and a formal solution of them is given. There are 2 Soviet references.

SUBMITTED: 19th September 1958

Card 1/1

84320
 S/170/60/003/009/016/020Z
 B019/B060

16,6800(1024,1250,1344)

9,7000

AUTHORS:

Berlyand, O. S., Gavrilova, R. I., Prudnikov, A. P.

TITLE:

Functions Satisfying the Differential Equation 16

$y'' \pm 2xy' \pm 2ny = 0$

PERIODICAL:

Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 9,
 pp. 103-107

TEXT: In the first part of the present paper it is shown that the function $y'' + 2xy' - 2ny = 0$ is satisfied by the integral functions

$$i^n \operatorname{erfc} x = \int_x^{\infty} i^{n-1} \operatorname{erfc} f df \quad (n \geq 1), \text{ for } i^0 \operatorname{erfc} x = \operatorname{erfc} x = \frac{2}{\sqrt{\pi}} \int_x^{\infty} \exp(-f^2) df.$$

Also examined was the function $I^n \operatorname{erfc} x = A_n i^n \operatorname{erfc} x$, with $I^0 \operatorname{erfc} x = i^0 \operatorname{erfc} x$. Such series as, e.g., the MacLaurin series were obtained:

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Functions Satisfying the Differential
Equation $y'' + 2xy' + 2ny = 0$

84320
S/170/60/003/009/016/020X
B019/B060

$$I^n \operatorname{erfc} x = \sum_{m=0}^{\infty} (-1)^m \frac{A_n}{A_{n-m}} \cdot \frac{x^m}{m!} \quad (3).$$

In the second part the differential

equation $y'' + 2xy' + 2ny = 0$ is shown to be satisfied by the function $i^{-n} \operatorname{erfc} x$, and in the third part the Hermitian polynomial $H_n(x)$ is found to satisfy the differential equation $H_n''(x) - 2xH_n'(x) + 2nH_n(x) = 0$ and $H_{-n}(x)$ the differential equation $H_{-n}''(x) - 2xH_{-n}'(x) - 2nH_{-n}(x) = 0$. The following relations exist between the functions $H_n(x)$, $H_{-n}(x)$, $i^n \operatorname{erfc} x$, and $i^{-n} \operatorname{erfc} x$:

$$i^{-(n+1)} \operatorname{erfc} x = \frac{2}{\sqrt{\pi}} e^{-x^2} H_n(x), \quad i^n \operatorname{erfc} x = \frac{2}{\sqrt{\pi}} e^{-x^2} H_{-n(n+1)}(x).$$

Proceeding from these relations, formulas are developed for numerical calculations. There are 5 references: 2 Soviet and 3 British.

ASSOCIATION: Vychislitel'nyy tsentr AN SSSR, g. Moskva
(Computing Center of the AS USSR, Moscow)

SUBMITTED: March 4, 1960

Card 2/2

GAVRILOVA, R.I.; PRUDNIKOV, A.P.

Problem in the theory of thermal conduction. Inzh.-fiz.zhur. no.5:
136-137 My '60. (MIRA 13:8)

1. Institut energetiki AN BSSR, Minsk.
(Heat--Conduction)

BERIYAND, O.S.; GAVRILOVA, R.I.; PRUDNIKOV, A.P.; DITKIN, V.A., prof.,
otv. red.; BARABANOVA, Ye., red. izd.-va; SIDERKO, N., tekhn.
red.

[Tables of integral functions, errors, and Hermitian polynomials]
Tablitsy integral'nykh funktsii oshibok i polinomov Ermita. Minsk,
Izd-vo Akad. nauk BSSR, 1961. 163 p.
(MIRA 14:10)
(Mathematics--Tables, etc.)

DITKIN, Vitaliy Arsen'yevich; PRUDNIKOV, Anatoliy Platonovich; LYUSTERNIK, L.A., red.; YANPOL'SKIY, A.R., red.; LAPKO, A.F., red.; BRUDNO, K.F., tekhn. red.

[Integral transformations and operational calculus] Integral'nye preobrazovaniia i operatsionnoe ischislenie. Pod obshchei red. L.A. Liusternika i A.R. Yanpol'skogo. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1961. 523 p. (MIRA 14:10)

(Transformations (Mathematics)) (Calculus, Operational)

DITKIN, V.A. (Moskva); PRUDNIKOV, A.P. (Moskva)

Operational calculus of Bessel operators. Zhur.vych.mat.i mat.
fiz. 2 no.6:996-1018 N-D '62. (MIRA 15:11)
(Calculus, Operational)

34471
 S/020/62/142/004/008/022
 B112/B102

16.3400

AUTHOR:

Prudnikov, A. P.

TITLE:

On the theory of operational calculus

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 4, 1962, 794-
797TEXT: The author considers the operator $T = \frac{d}{dt} t \frac{d}{dt} t \frac{d}{dt}$. The most importantresults are the following: $T^2/(T^2 + \omega^2) = ber_{0,0}^{(2)}(3\sqrt[3]{\omega}t)$, $\omega T/(T^2 + \omega^2) = bei_{0,0}^{(2)}(3\sqrt[3]{\omega}t)$, $T bei_{0,0}^{(2)}(3\sqrt[3]{\omega}t) = \omega ber_{0,0}^{(2)}(3\sqrt[3]{\omega}t)$. $T ber_{0,0}^{(2)}(3\sqrt[3]{\omega}t) = -\omega bei_{0,0}^{(2)}(3\sqrt[3]{\omega}t)$, where $ber_{0,0}^{(2)}(x) = \sum_{k=0}^{\infty} (-1)^k (x/3)^{6k}/((2k)!)^3$, $bei_{0,0}^{(2)}(x) = \sum_{k=0}^{\infty} (-1)^k (x/3)^{3(2k+1)}/((2k+1)!)^3$.

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On the theory of operational...

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B112/B102

As an example, the equation $T^2 x(t) + x(t) = 0$ with the conditions $x(0) = 1$, $Tx(t)|_{t=0} = 1$ is solved by the function

$$x(t) = T^2/(T^2 + 1) + T/(T^2 + 1) = \text{ber}_{0,0}(2)(3\sqrt[3]{t}) + \text{bei}_{0,0}(2)(3\sqrt[3]{t})$$

There are 4 references: 3 Soviet and 1 non-Soviet.

ASSOCIATION: Vychislitel'nyy tsentr Akademii nauk SSSR (Computer Center of the Academy of Sciences USSR)

PRESENTED: October 10, 1961, by A. A. Dorodnitsyn, Academician

SUBMITTED: October 5, 1961

Card 2/2

S/020/62/144/001/006/024
B112/B102

16.3400

AUTHOR:

Prudnikov, A. P.

TITLE: Functions which satisfy the differential equation

$$x^2 y''' + 3xy'' + y' + x^2 y = 0$$

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 1, 1962, 56-57

TEXT: For the equation $t^3 y''' + 3t^2 y'' + ty' + ty = 0$, the following three linearly independent solutions y_1, y_2, y_3 are derived:

$$y_1(t) = \sum_{m=0}^{\infty} \frac{(-1)^m}{(m!)^3} t^m = J_{0,0}^{(2)}(3\sqrt[3]{t}),$$

$$y_2(t) = J_{0,0}^{(2)}(3\sqrt[3]{t}) \ln t - 3 \sum_{m=0}^{\infty} \frac{(-1)^m}{(m!)^3} t^m \psi(m+1),$$

$$y_3(t) = \frac{1}{4} \sum_{m=0}^{\infty} \frac{(-1)^m}{(m!)^3} t^m \{ \ln^2 t - 6\psi(m+1) \ln t + 9\psi^2(m+1) - 3\psi'(m+1) \}.$$

Card 1/2

Functions which satisfy the ...

S/020/62/144/001/006/024
B112/B102

$$\psi(m + 1) = d \ln \Gamma(m + 1)/dm.$$

ASSOCIATION: Vychislitel'nyy tsentr Akademii nauk SSSR (Computer Center
of the Academy of Sciences USSR)

PRESENTED: December 19, 1961, by A. A. Dorodnitsyn, Academician

SUBMITTED: December 18, 1961

Card 2/2

Operational evaluation of functions of the integrated argument and
some of its applications in discrete analysis. Inst. fiz. zhurn.
no.73(6)-115 July 1964.

1. Vychislitel'nyy Zentr RAN, Moscow.

L 12747-63

EWT(d)/FCC(w)/BDS AFFTC

S/208/63/003/002/002/014

IJP(C)

AUTHOR:

Ditkin, V. A. and Prudnikov, A. P. (Moscow)

52

TITLE:

The theory of operational calculus generated by Bessel equation

16

PERIODICAL:

Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 3,
no. 2, 1963, 223-238

TEXT: Operational calculus of two variables is discussed here more thoroughly than in previous works by the same authors (Ref. 2: Integral'nyye preobrazovaniya i operatsionnoye ischisleniye [Integral transformations and operational calculus], M. Fizmatgiz, 1961; Ref. 3: Operatsionnoye ischisleniye po dvum peremennym i yego prilozheniya [Operational calculus of two variables and its applications], M., Fizmatgiz, 1958). Instead of the set of all functions $f(x,y)$ defined in the region $R(0 \leq x < \infty, 0 \leq y < \infty)$ integrable in the sense of Lebesgue within an arbitrary finite rectangle $R_{ab}(0 \leq x \leq a, 0 \leq y \leq b)$, the authors now investigate a subset consisting of all the functions of the form $f(xy)$. First they introduce and discuss the properties of the ring C_B of all functions of the system

$$F(t) = \int_0^t \frac{du}{u} \int_0^u f(v) dv + C$$

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The theory of operational

This leads quite naturally to the study of various operator functions of the operator

$$B = \frac{d}{dt} t \frac{d}{dt}$$

which is closely connected to the equation

$$\frac{d}{dt} t \frac{d}{dt} y = \lambda y$$

which is actually the transformed Bessel equation

$$y'' + \frac{1}{x} y' - y = 0$$

using the substitution $x = 2\sqrt{\lambda}t$. The operator calculus of B can be established starting with the Bessel-Meyer integral

$$f^*(B) = 2 \int_0^\infty f(t) K_0(2\sqrt{Bt}) dt$$

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O

The theory of operational

The authors derive

$$\bar{a}(B) = 2B \int_0^{\infty} f(t) K_0(2\sqrt{Bt}) dt \quad (4.11)$$

which is the analogue to the Laplace-Carson transform and supply a table with 25 examples of application of (4.11). There is 1 table.

SUBMITTED: August 11, 1962

Card 3/3

PRUDNIKOV, F., general-major.

Marksmanship as a sport in the Soviet Army. Voen.vest. 37
no.8:91-93 Ag '57. (MIRA 10:10)
(Target practice)

27-8-16/32

SUBJECT: USSR/Schooling

AUTHOR: Prudnikov, F., Instructor of Mechanization School # 1 at
Sychevka, Smolensk Oblast.TITLE: Model of a Carburetor Engine (Maket karbyuratornogo dviga-
telya)PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, Aug. 1957,
8, p 24-25 (USSR)

ABSTRACT: The author made, with the help of students, a model of a carburetor engine which demonstrates both its operation and the phases of gas-distribution. For the latter purpose a supplementary device is fixed on the model which consists of a graduated disc and an indicator fastened by a pin and connected with an electrical equipment. The article gives a description of the model and its parts. It can be used for training drivers of tractors, combines and automobiles.

The article contains 4 schematic drawings.
INSTITUTION: Uchilishche Mekhanizatsiyi # 1 goroda Sychevka, Smolenskov Ob-
lasti (Mechanization School # 1, town Sychevka, Smolensk Oblast!)

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 1/1

DEBRIN, I.I., podpolkovnik zapasa; PRUDNIKOV, F.K., general-mayor,
red.; GULEVICH, I.D., polkovnik, red.; BUKOVSKAYA, N.A.,
tekhn. red.

[Hunting in the Soviet] Okhotnichii sport v Sovetskoi Armii;
sbornik statei. Pod obshchei red. F.K. Prudnikova. Moskva,
Voen.izd-vo M-va obor. SSSR, 1960. 262 p. (MIRA 16:2)

1. Vsearmeyskoye voyenno-okhotnich'ye obshchestvo. TSentral'nyy
Sovet.
(Hunting) (Russia--Army--Military life)

DEBRIN, I.I.: PRUDNIKOV, F.K., general-mayor, otv. red.; GULEVICH, I.D.,
red.; EUKOVSKAYA, N.A., tekhn. red.

[Favorite places for hunting; description of hunting grounds]
Liubimye mesta okhoty; opisaniiia okhotnich'ikh ugodii. Otv. red.
F.K.Prudnikov. Voen. izd-vo M-va oborony SSSR, 1961.
387 p. (MIRA 15:2)

1. Vsearmeskoye voyenno-okhotnich'ye obshchestvo.
(Hunting)

PRUDNIKOV, G.; GORSHKOV, A., Geory Sotsialisticheskogo Truda;
MALININA, P., Geroy Sotsialisticheskogo Truda; SEMENOV, I.,
Geroy Sotsialisticheskogo Truda; KHALYAVIN, S.; BELOUSOV, D.;
MORYGANOV, A.N., kand. sel'khoz. nauk; ULIN, I.I., red.;
LEVINA, L.G., tekhn. red.

[Know how to use every hectare of land] Umelo ispol'zovat'
kazhdyi getktar zemli. Moskva, Izd-vo MSKh RSFSR, 1962. 52 p.
(MIRA 15:9)

1. Predsedatel' kolkhoza "Pervoye maya" Kaluzhskoy oblasti
(for Prudnikov).
2. Predsedatel' kolkhoza "Bol'shevik"
Vladimirskoy oblasti (for Gorshkov).
3. Predsedatel' kol-
khoza "12-y Oktyabr'" Kostromskoy oblasti (for Malinina).
4. Predsedatel' kolkhoza "Novaya zhizn'" Tul'skoy oblasti
(for Semenov).
5. Predsedatel' kolkhoza "Kommunar" Bryanskoy
oblasti (for Khalyavin).
6. Sekretar' partiynogo komiteta
kolkhoza "Put' Lenina" Bryanskoy oblasti (for Belousov).
7. Zaveduyushchiy otdelom Moskovskogo instituta sel'skogo
khozyaystva (for Moryganov).

(Agriculture)

KHOKHLOV, V.K.; PRUDNIKOV, I.A.; V'YALITSYN, V.A.; NADYBIN, A.I.

Experimental testing of a model of the bunching section of a
50 Mev. linear electron accelerator. Elektrofiz. app.
no.2:104-114 '64. (MIRA 18:3)

PRUDNIKOV, I.M.

In the Council of Innovators of Kurgan. Mashinostroitel'
no.9:5 S '63. (MIRA 15:9)

I. Predsedatel' Soveta novatorov Kurganskogo soveta
narodnogo khozyaystva.
(Kurgan Province--Technological innovations)

MAZUROV, M.Ye. (Moskva); PRUDNIKOV, I.N. (Moskva)

Multiplication of electrical signals using three-electrode Hall
transducers. Izv.AN SSSR.Otd.tekh.nauk.Energ.i avtom. no.2:
148-155 Mr-Ap '62. (MIRA 15:4)
(Hall effect) (Semiconductors) (Frequency changers)

ANDREYEV, V. S.; MAZUROV, M. Ye.; PRUDNIKOV, I. N.

Use of the Hall effect in frequency dividers. Elektrosviaz 14
no.9:12-19 S '60. (MIRA 13:9)
(Frequency changers) (Hall effect)

MAZUROV, M.Ye.; PRUDNIKOV, I.N.

Electric current and voltage multiplier based on the Hall effect.
Prib. i tekhn. eksp. 9 no.1:124-127 Ja-F '64. (MIRA 17:4)

1. Moskovskiy elektrotekhnicheskiy institut stali.

MAZUROV, M.Ye.; PRUDNIKOV, I.N.

Using the Hall effect in measuring direct and alternating currents. Izm.tekh. no.7:45-46 J1 '60. (MIRA 13:7)
(Hall effect) (Electric measurements)

9,4370 1413, 1530, 1496
18 8100

26453
S/115/61/000/007/004/004
E073/E535

AUTHORS: Andreyev, V. S., Mazurov, M. Ye. and Prudnikov, I.N.

TITLE: Application of the Hall effect for investigating the properties of cores of ferromagnetic materials

PERIODICAL: Izmeritel'naya tekhnika, 1961, No.7, pp.36-37

TEXT: Various authors have suggested using the Hall effect for recording the dynamic magnetization curve of ferromagnetics. However, the Hall constant of the used ferromagnetic materials was too low to achieve a satisfactory sensitivity. The authors propose using special semiconductor Hall pick-ups for investigating the magnetic characteristics of closed specimens and of specimens with air gaps. A sketch, Fig.1, is reproduced showing an arrangement for specimens with air gaps in which the output from the Hall pick-up is fed to an oscillosograph. In such circuits the reluctance of the magnetic circuit without the air gap must be much higher than the reluctance of the air gap. A sketch, Fig.2, is also shown of a circuit for investigating specimens of simple geometrical shape in which a part of the magnetic circuit 1 is made of material with a high permeability and high saturation

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Application of the Hall effect ...

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induction, whilst another part 2 is of a simple shape and is formed by the specimen under investigation. To reduce the air gap to a minimum, the author recommends using pick-ups in the form of thin films. The various sources of error are briefly enumerated, mentioning that they have been dealt with in greater detail in another paper of the authors (Ref.6: Trudy uchebnykh institutov svyazi, 1961, No.1). By good design and satisfactory compensation the accuracy of this method can be increased to be comparable with the accuracy of instruments based on other principles. The method was applied for cores of various materials (transformer steel, permalloy and ferrites). Due to the extremely low inertia, Hall pick-ups can be used for determining the magnetization curve up to very high frequencies. By using low frequency generators and oscilloscopes, this method permits determining the characteristics of materials which are near to the static characteristic, for instance, curves recorded at a frequency of 15 c.p.s. differ from curves recorded with d.c. by only 1 to 2%. There are 2 figures and 6 references: all Soviet.

Card 2/3

ANDREYEV, V.S.; MAZUROV, M. Ye.; PRUDNIKOV, I.N.

Using the Hall effect in investigating the properties of ferromagnetic
cores. Izm.tekh. no.7:36-37 J1 '61. (MIRA 14:6)

(Hall effect)
(Cores (Electricity)--Testing)

PRUDNIKOV, I. N.

Cand Tec Sci, Diss -- "Investigation of methods of multiplying changing stresses". Moscow, 1961. 14 pp, 20 cm (Acad Sci USSR. Siberian Dept of the Joint Sci Council on Phys-Math and Tec Sci), 160 copies, Not for sale, 15 works by the author listed on pp 13-14 (KL, No 9, 1961, p 184, No 24362). [61-55875]

MAZUROV, M.Ye.; PRUDNIKOV, I.N.

Amplitude modulation utilizing the Hall effect. Radiotekh. i
elektron. 7 no.10:1720-1729 0'62. (MIRA 15:10)
(Modulation (Electronics)) (Radio) (Hall effect)

5/024/62/000/002/010/012
E140/E155

9,4370

AUTHORS: Mazurov, N.Ye., and Prudnikov, I.N. (Moscow)

TITLE: Multiplier using three-electrode Hall-effect device

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
tekhnicheskikh nauk. Energetika i avtomatika,
no.2, 1962, 148-155

TEXT: Derivation of equations and circuit considerations on
the use of three-electrode Hall-effect devices as analogue
multipliers. The principal advantage is the existence of a
common point for the input and output circuits. The sensitivity
is half that of the normal Hall-effect device. A.A.Kharkevich
suggested the subject matter of this investigation.
There are 7 figures and 1 table.

SUBMITTED: May 25, 1961

Card 1/1

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343410017-7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343410017-7"

SHLYK, A.A.; LYAKHNOVICH, Ya.P.; GAPONENKO, V.I.; PRUDNIKOV, I.V.;
KALER, V.L.

Relation between the specific activity of chlorophyll a and b
during the initial stages of renewal. Biul. Inst. biol. AN BSSR
no.5:138-140 '60. (MIRA 14:7)

(CHLOROPHYLL)

MALENKO, Andrey Lukich; PRUDNIKOV, Ivan Nikolayevich; MEDVEDEVA,
L.V., red.; ANDREYEVA, L.S., tekhn. red.

[Wages in the woodpulp-paper industry] Oplata truda v tsel-
liulozno-bumazhnoi promyshlennosti. Moskva, Profizdat,
1962. 222 p. (MIRA 17:1)

L U42D7-07

EWT(I)/EWT(m)/EWP(j)/T IJP(c) GG/RM

ACC NR: AR6010512

SOURCE CODE: UR/0196/65/000/010/B011/B012

AUTHOR: Prudnikov, L. A.

63

TITLE: Effect of electrical discharges on organic dielectrics

B

SOURCE: Ref. zh. Elektrotehnika i energetika, Abs. 10B61

REF SOURCE: Sb. Proboj dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 298-301

TOPIC TAGS: organic dielectric, electric discharge, phenolformaldehyde, melamine plastic, dielectric material

ABSTRACT: Results of tests of composition plastics based on phenol formaldehyde (PF) resin K-21-22, melamine formaldehyde (MF) resin K-78-51, their mixtures (content of K-21-22, 8 and 16%), and KO-resins for resistance to the effect of electrical discharges of various power (2.5 kva, current 6.5 ma, and 250 kva, current 1300 a) are given. The dielectrics also were tested for resistance to leakage currents when the surface between the electrodes was moistened, which was under a voltage of 660 v (short-circuit current 1.4 a), by drops of electrolyte (a 1-% solution of NaCl and a 3-% solution of H₂SO₄). The KO and MF resins with mineral fillers are resistant to electrical discharges of all capacities. The group of arc-resistant materials also includes pressed material based on a mixture of MF and PF resins with the content of

Copy 1/2

UDC: 621.315.616.9.015.533

104257 -67
ACC NR: AR6010512

the latter being 8% (with the content of 16% PF resins, the material is not resistant to low-power discharges, and material based only on PF resins and organic filler is even less resistant). Oxidizing processes in low-power discharges in the presence of moisture, which facilitates the formation of carbon-coated tracks, has the most destructive effect on the surface of organic dielectrics with a high carbon content. The lack of any current-conducting bridges in high-power discharges is explained by the predominance of the combustion process and the removal of the free carbon gases liberated on the surface of the dielectric. [Translation of abstract] 3 illustrations, 1 table, and bibliography of 4 titles. [Eastern NII, Kemerovo (Vost NII)] A. Petrashko

SUB CODE: 11,20

Card 2/2 f v

PRUDNIKOV, M.I.

Sheet metal deformation limits during biaxial extension. Kuz.-
shtam.proizv. 4 no.8:20-23 Ag '62. (MIRA 15:8)
(Sheet-metal work) (Deformations (Mechanics))

PRUDNIKOV, M. I.

Determination of true tensile strength and uniform deformation. Zav.
lab. 29 m.12:1480-1482 '63. (MIRA 17:1)

1. Leningradskiy mekhanicheskiy institut.

REBENIKOV, MIKHAIL NIKITIN, docsent

Determination of specific pressures during the pressing in of
the master die. Vestn. mashinostr. 44 no. 4:53-56 Ap '64.
(MIRA 17:5)

PRUDNIKOV, M.I.

Bending moment in the plastic bending of sheet. Kuz.-shtam. proizv.
no.4:6-8 Ap '61. (MIRA 14:3)
(Sheet-metal work)
(Flexure)

PRUDNIKOV, M.I.

Strains during the plastic flexure of sheet materials. Kuz.-
shtam. proizv. 3 no.9:4-7 S '61. (MIRA 14:9)
(Sheet metal work) (Strains and stresses)

S/040/62/026/006/008/015
D234/D308

AUTHOR: Prudnikov, M.M. (Moscow)

TITLE: Spectral analysis of Fridman-Keller equations for the case of isotropic turbulence

PERIODICAL: Prikladnaya matematika i mehanika, v. 26, no. 6, 1962,
1099 - 1103

TEXT: The author considers a problem of the Cauchy type for Fridman-Keller equations. Spectral tensors, constituting generalized Fourier transformations of correlation tensors, are represented as a sum of multiple integrals of spectral tensors of the initial distribution function

$$\tau_{a_0, \dots, a_{n-1}}^{(n)}(k_1, \dots, k_{n-1}, t) = \tau_{a_0, \dots, a_{n-1}}^{(n)}(k_1, \dots, k_{n-1}, 0)e^{-Pnt} + \\ + L_n(\tau_0^{(n+1)} e^{-P_{n+1}t} + \dots + L_n L_{n+1}, \dots, L_{m-1}(\tau_0^{(m)}) e^{-P_m t}) + \dots (9n)$$

Card 1/2

S/040/62/026/006/008/015
Spectral analysis of Fridman-Keller... D234/D308

by solving the spectral form of Fridman-Keller equations, which is considered as a system of ordinary linear equations with constant coefficients. The liquid is assumed to be incompressible.

SUBMITTED: July 17, 1962

Card 2/2

PRUDNIKOV, M.M. (Moskva)

Spectrum analysis of Friedman-Keller equations for uniform turbulence. Prikl. mat. i mekh. 26 no.6:1099-1103 N-D '62.

(MIRA 16:1)

(Turbulence) (Differential equations)

29060
S/179/b1/000/004/002/019
E032/B514

114900
AUTHOR: Prusnikov, M.N. (Moscow)
TITLE: Uniform plasma turbulence in a strong magnetic field
PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Mekhanika i mashinostroyeniye, 1961, No. 4,
op. 10-15

TEXT: The author is concerned with uniform turbulence in an
incompressible isotropically conducting medium (e.g. liquid metal)
whose motion can be described by the equations of magneto-
hydrodynamics:

$$\frac{\partial U_i}{\partial t} + \frac{\partial}{\partial x_k} \left(U_i U_k - \frac{H_i H_k}{4\pi\rho} \right) + \frac{1}{\rho} \frac{\partial}{\partial x_i} \left(p + \frac{B^2}{8\pi} \right) = v \Delta U_i$$

$$\frac{\partial H_i}{\partial t} + \frac{\partial}{\partial x_k} \left(H_i U_k - U_i H_k \right) = v_m \Delta H_i \quad (v_m = \frac{c^2}{4\pi\rho})$$

where U_i is the velocity of the stream and H_i is the magnetic field.
These equations are then reduced and H_i is the axially symmetric case, and the final set of equations is given as $\frac{\partial u_{ij}}{\partial t}$

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Uniform plasma turbulence ...

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S/179/61/000/004/002/019
E032/E514

in terms of the first and second derivatives of the correlation moments $\langle u_i u_j \rangle$ (velocity-velocity), $\langle u_i h_j \rangle$ (velocity-field) and $\langle h_i h_j \rangle$ (field-field), where $u_j(r + \xi) \equiv u' j$ is the rate of perturbation. The importance of the various terms in these equations is then estimated on the basis of a simple model of the turbulence. If it is assumed that $D \sim R^{-1.5}$, then the equations can be shown to reduce to a set which contains only scalar differential operations on the second order moments, namely,

(3.1)

$$\frac{\partial}{\partial t} \overline{u_i u_j} + \overline{H_k} \frac{\partial}{\partial \xi_k} (\overline{u_i h_j} + \overline{u_j h_i}) = 0 \\ - \overline{H_k} \frac{\partial}{\partial \xi_k} (\overline{u_i h_j} + \overline{u_j h_i}) = 2 \Delta \overline{h_i h_j}, \quad \overline{H_k} \frac{\partial}{\partial \xi_k} \overline{u_i u_j} = (v + v_m) \Delta \overline{u_i h_j}$$
(3.2)

where R_m is the magnetic Reynolds number and D is the ratio of

Card 2/4

Uniform plasma temperature . . .

29060
S: 179 1/000/004/002/019
E: 032/0314

the magnetic to the kinetic energies. It can then be shown that if we introduce the notation

$$L_{ij} = \int_v e^{-\frac{h_i h_j}{u_0 v^2}} e^{-\xi v} dv, \quad M_{ij} = \int_v \frac{\overline{h_i h_j'}}{u_0 h_0} e^{-\xi v} dv, \quad N_{ij} = \int_v \frac{\overline{h_i h_j'}}{h_0^2} e^{-\xi v} dv \quad (3.3)$$

then the problem is equivalent to the solution of the set of equations

$$\frac{\partial}{\partial t} L_{ij} + i\kappa_k \lambda_k \frac{u_0}{l_0} t_0 R_m D (M_{ij} + M_{ji}) = 0 \quad (3.4)$$

$$-i\kappa_k \lambda_k (M_{ij} + M_{ji}) = -2\kappa^2 N_{ij}, \quad i\kappa_k \lambda_k L_{ij} = -\left(1 + \frac{R_m}{R_e}\right) \kappa^2 M_{ij} \quad (3.5)$$

From these it follows that

$$L_{ij}(z, t) = L_{ij}(z, 0) e^{-\gamma t}, \quad \gamma = 2 \frac{u_0}{l_0} t_0 R_m D \quad (3.6)$$

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Uniform plasma turbulence ...

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E032/E514

$$\overline{u_i u_j'} = \iiint_{-\infty}^{+\infty} L_{ij}(z, 0) e^{iz^2 - r^2} dz_1 dz_2 dz_3 \quad (3.7)$$

Since $L_{ij}(z, 0)$ cannot be determined within the framework of the statistical theory of turbulence, it must be measured experimentally. Analysis of these general solutions shows that the turbulence mechanism in a conducting liquid in the presence of a strong magnetic field is very different from the usual hydrodynamic turbulence. In the presence of external magnetic fields, the leading dissipation mechanism is magnetic viscosity, which is associated with the appearance of induced turbulent currents. The predominating effect of magnetic viscosity leads to a rapid degeneration of the turbulence. Acknowledgments are expressed to V. M. Iyevlev for suggesting this problem and advice. There are 3 Soviet references: all translations from English.

SUBMITTED: May 21, 1950

Card 4/4

PRUDNIKOV, N.K., aspirant

Heat conductivity of aqueous solutions of salt electrolytes.
Sbor.nauch.trud.IEI no.10 pt.2:73-81 '62. (MIRA 16:9)

PRUDNIKOV, P.G.

Semiautomatic production of boards made of wood shavings. Der.
prom. 8 no.6:20-22 Je '59. (MIRA 12:8)

1. Kiyevskaya mebel'naya fabrika im. Bozhenko.
(Hardboard) (Automation)

PRUDNIKOV, Petr Gerasimovich; TSYBA, L.A., red.; GUSAROV, K.F., tekhn.
red.

[New technology and equipment in furniture manufacture] Novaia
tekhnika v proizvodstve mebeli. Izd.2., perer. i dop. Kiev, Gos.
izd-vo tekhn. lit-ry USSR, 1961. 263 p. (MIRA 14:11)
(Furniture)

PHUDNIKOV, P.M., (selo Rybnaya Sloboda Tatarskoy ASSR)

Active members in public health agencies carry out prophylactic measures. Fel'd. i akush. no.7:51-52 Jl '55. (MLRA 8:10)

(PUBLIC HEALTH.

in Russia, dispensaries in rural areas)

(CLINICS,

in Russia, in rural areas)

(RURAL CONDITIONS

in Russia, dispensaries)

ROVIN, A.L., kandidat tekhnicheskikh nauk; SEREDIN, Yu.M., inzhener;
SHCHEGOLEV, M.M., professor, nauchnyy redaktor; PRUDNIKOVA, M.N.,
redaktor; LYUDKOVSKAYA, N.I., tekhnicheskiy redaktor

[Instructions for the fitting and operation of the "Universal"
cast iron sectional heater boiler] Instruktsiya po montazhu i
ekspluatatsii otopitel'nogo chugunnogo sektsionnogo kotla
"Universal." Moskva, Gos. izd-vo lit-ry po stroit. materialam,
1956. 17 p. (MLRA 9:10)

1. Russia (1923- U.S.S.R.) Ministerstvo promyshlennosti stroyatel'-
nykh materialov SSSR.
(Boilers)

PRUDNIKOV, N.G.

They work well and help others to do good work. Put' i put.khoz.
5 no.9:22 S '61. (MIRA 14:10)

1. Zamestitel' nachal'nika Shadrinskoy distantsii Yuzhno-Ural'skoy
dorogi. (Ural Mountain region--Railroads--Employees)

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343410017-7

PRUDNIKOV, P., inzh.

Efficient way of piling tree-length logs. Mast. lesa. no. 4:32
Ap '57. (MIRA 10:10)
(Lumbering)

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343410017-7"

PRUDNIKOV, P.G., ISHIN, N.D.

New wood-finishing techniques. Der.prom. 7 no. 7:19-20 Jl '58.
(MIRA 11:8)

1. Kiyevskaya mebel'naya fabrika im. Bozhenko.
(Wood finishing)

PRUDNIKOV, P.G.

Progressive furniture factory of the Ukraine. Der. prom. 6 no.11:19-
21 N '57. (MIRA 10:11)

1. Kiyevskaya mebel'naya fabrika im. Bozhenko.
(Kiev--Furniture industry)

OSNACH, N.A.; KIYAN, Ye.F.; PRUDNIKOV, P.G.; MOSTOVENKO, V.G.

Production line for working barlike parts for room furniture.

[Suggested by Osnach, N.A.; Kyan, Ye.F.; Prudnikov, P.G.; Mostovenko, V.G.]
Prom.energ. 12 no.10:21-22 0 '57. (MIRA 10:10)

(Kiev--Furniture industry)

PRUDNIKOV, P.M., (selo Rybnaya Sloboda Tatarskoy ASSR)

Active members in public health agencies carry out prophylactic measures. Fel'd-i akush. no.7:51-52 J1 '55. (MLRA 8:10)

(PUBLIC HEALTH,

in Russia, dispensaries in rural areas)

(CLINICS,

in Russia, in rural areas)

(RURAL CONDITIONS

in Russia, dispensaries)

L 10783-67 EWT(m)
ACC NR: AF7003505

SOURCE CODE: UR/0076/66/040/006/1396/1399

AUTHOR: Prudnikov, R. V.; Kiselev, V. F.

28

ORG: Physics Faculty, Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet, Fizicheskiy fakul'tot)

"Effects of the Adsorption of Water on the Rate of Surface Recombination and Surface Conductivity of Germanium"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 40, No. 6, Jun 66, pp 1396-1399

ABSTRACT: The effects of water adsorption on surface recombination σ , surface conductivity σ , and the surface potential ϕ of Ge of the n-type with an oxidized surface were studied. σ increased with increasing temperatures of the treatment of Ge samples in vacuo. Adsorption of water on the initial Ge in the region of low filling of the surface reduced σ ; there was no further change at higher degrees of filling. Adsorption on thermally treated samples resulted in an abrupt decrease of σ , which then approached the value for the initial sample. During desorption σ decreased along a curve for Ge treated in vacuo at 20°. After evacuation the initial value of σ was restored. Dehydration and rehydration in the 20-200° range resulted in reversible changes of σ . The time required

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UDC: 541.183

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L 10783-67

ACC NR: AP7003505

for a stable value of ϕ to become established did not exceed 5 min. The values of ϕ increased with increasing water adsorption, while those of ψ were displaced into the positive range. The phenomena observed were due to donor-acceptor interaction of water molecules with coordinatively unsaturated Ge atoms at the surface. Orig. art. has: 2 figures. [JPRS: 38,967]

TOPIC TAGS: germanium, adsorption, electric conductivity

SUB CODE: 20, 07 / SUBM DATE: 07Jul65 / ORIG REF: 008 / OTH REF: 007

Card 2/2

ACC NR: AP6025838

SOURCE CODE: UR/0020/66/166/002/0395/0396

AUTHOR: Prudnikov, R.V.; Kiselev, V.P.; Yegorov, M.M.

44

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

B

TITLE: Investigation of the adsorption properties of a germanium dioxide surface

11

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 395-398

TOPIC TAGS: germanium compound, adsorption, hydrolysis, dehydration, molecular structure, chemical stability, reaction temperature

ABSTRACT: The authors studied the adsorption properties of germanium dioxide specimens produced by hydrolysis of germanium tetrachloride. Water was used as the adsorbate since it is highly sensitive to the state of the oxide surface. Curves are given showing the specific surface, content of structural water calculated per gram and per square meter of the surface, and irreversible adsorption of water as functions of temperature. The greatest losses of water take place when the specimen is heated to 300°. Dehydration takes place without any noticeable change in the specific surface. Calculation of the structural water content per unit area shows an unusually high value at low temperatures, much greater than that for silicon and titanium oxides. Apparently a part of the water at low temperatures is located in structural defects in deformed GeO_2 particles produced by partial transition from the

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UDC: 541.183.2

0916 2590

L 35325-66

ACC NR: AP6026838

2

dense tetragonal form in which the germanium atom is surrounded by six coordination linked atoms of oxygen to a looser hexagonal form with tetrahedrally located oxygen atoms. An increase in the solubility of the hexagonal form would facilitate the introduction of water molecules. This introduction of water may be one of the reasons for instability of germanium devices. Measurements show that the specific primary adsorption of specimens increases when the heat treatment temperature is raised from 20 to 300°. Specimens annealed at 300° show maximum adsorption activity. Adsorption drops sharply when the heat treatment temperature is raised further. Irreversible adsorption increases with temperature up to 400-500° and then decreases. The article was presented by Academician M.M. Dubinin on 4 June 1965. The authors thank L.N. Kurbatov for his support of the work and K.G. Krasil'nikov for his valuable discussion of the results. [JPRS: 36,452]

SUB CODE: 07 / SUBM DATE: 02Jun65 / ORIG REF: 010 / OTH REF: 004

Card 2/2 bbb

L 16943-66 EWT(m)/T/EWP(t) IJP(c) JD
ACC NR: AP6004095 (N) SOURCE CODE: UR/0020/66/166/002/0395/0398
3333B

AUTHOR: Prudnikov, R.V.; Kiselev, V.F.; Yegorov, M.M.

ORG: Moscow State University im. M.V. Lomonosov (Moskovskiy gosudarstvennyy
universitet)

TITLE: Study of the adsorptive properties of the germanium dioxide surface

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 395-398

TOPIC TAGS: adsorption, germanium compound

ABSTRACT: Measurements of adsorption, heat of adsorption, structural water content, and specific surface were carried out for a germanium dioxide surface with water as the adsorbate; water was chosen because its adsorption is the most sensitive to the state of the oxide surface. The adsorptive activity of GeO₂ heated to various temperatures is correlated with the structural transformations taking place in this oxide: as the temperature of the heat treatment rises from 20 to 300°C, the specific values of the primary adsorption increase, the maximum adsorption being displayed by samples heated to 300°C: a further rise in temperature causes a sharp decrease in adsorptive activity. This behavior is attributed to the healing of surface defects and conversion to the purely tetragonal form

UDC: 541.183.2

L 16943-66

ACC NR: AP6004095

of GeO₂. A mechanism of donor-acceptor interaction is proposed to account for the adsorption. The paper was presented by Academician M. M. Dubinin 4 June 1965. Authors express their deep appreciation to K. G. Krasil'nikov for a helpful discussion of the results.
Orig. art. has: 3 figures.

SUB CODE: 07 / SUBM DATE: 02Jun65 / ORIG REF: 010 / OTH REF: 004

Card 2/2 vmb

COLL#-57 RWT(n)/EMP(t)/ETI IJP(c) JD

ACC NR: AP6026702

SOURCE CODE: UR/0181/66/008/008/2458/2459

52
B

AUTHOR: Prudnikov, R. V.; Novototskiy-Vlasov, Yu. F.; Kiselev, V. F.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Effect of the surface of the oxide film on the surface electrophysical properties of germanium

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2458-2459

TOPIC TAGS: surface property, electric potential, germanium, adsorption, desorption

ABSTRACT: Changes in the surface potential of germanium Ψ_g^0 , maximum rate of surface recombination S_{max} , and charge in fast surface states Q_{ss} during adsorption of water and its desorption by heating in a vacuum to 500°K were studied. The data obtained are compared with results of direct adsorption measurements made on germanium powder treated under identical conditions. It was found that the adsorption and desorption of water leads to reversible changes in Ψ_g^0 , S and Q_{ss} . The greatest changes occur at the initial stage of filling of the surface. It is postulated that at this stage, a part of the molecules enter into donor-acceptor bonds with the coordination-unsaturated surface atoms of germanium, which have vacant and sufficiently low d orbitals. At the same time, the electron density of the unshared electron pair of oxygen (in the H₂O molecule) is drawn into the d subshell of the germanium atom; Ge thus acquires a net

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L 06427-57

ACC NR: AP6026702

negative charge, and water, a net positive charge. The moment of this dipole may be many times greater than that of water. Above 500°K, OH groups are removed from the surface oxide film, causing the structure of the oxide to change. At 650-750°K, this structure converts to the close-packed tetragonal modification of GeO_2 . This causes irreversible changes in the adsorptive activity and to the healing of defects serving as the base for recombination centers and fast states. The oxide film begins to decompose at 700°K, and Y_s^0 shifts to the negative side because the defect concentration increases sharply. Orig. art. has 1 figure.

SUB CODE: 20 / SUBM DATE: 15Jan66 / ORIG REF: 003

Card 2/2 Add

MOROZOV, N.G.; uchitel' (selo Klyuchevki, Chelyabinskoy oblasti);
PRUDNIKOV, S., uchitel'; GORB, Ye.V.; SIDORENKO, B.P., uchitel';
LAZAREV, V.; SVIDUNOVICH, A., uchitel'; RUBIN, M., metodist;
VASIL'YEV, Ya.T., uchitel'

Letters to the editors. Geog. v shkole 23 no. 6:67-69 N-D
'60. (MIRA 13:11)

1. 4-ya shkola shkoly g.Nevelya(for Prudnikov).
2. Direktor 16-y shkoly g. Vinnitsy (for Gorb).
3. 81-ya shkola g.Baku (for Sidorenko).
4. 11-ya shkola g.Tyumeni (for Lazarev).
5. Velemichskaya shkola Brestskoy oblasti (for Svidunovich).
6. Vinnitskiy oblastnoy institut usovershenstvovaniya vrachey (for Rubin).
7. Sanitorno-lesnaya shkola poselka Klyuchi, Kamchatskoy oblasti (for Vasil'yev).
(Geography)

NOVIKOV, S., podpolkovnik; PRUDNIKOV, S., podpolkovnik

Refresher training courses for junior specialists. Tyl i snab.Sov.
Voor.Sil 21 no.2:29-~~32~~ F '61. (MIRA 14:6)
(Military education)

FRUDNIKOV, V., leytenant

Each Communist Youth League should actively participate in
public life. Kom. Vozr. Sil 1 no.13:62-64 Jl '61

(MIRA 14:7)

1. Sekretar' byuro pervichnoy organizatsii Vsesoyuznogo
Leninskogo kommunisticheskogo soyuza molodezhi.
(Russia--Army--Political activity)
(Communist Youth League)

PRIMIKOV, . Ye.

Prinikov, . Ye. "P.I. Chetyshev and Moscow University in the 1840's", In the collection: Ist.-matem. issledovaniya, Issue 1, Moscow, 1948, p. 104-214.

SG: U-3042, 11, March 53, (Letopis 'nykh Statey, No. 9, 1849)

PRUDNIKOV, V. E.

Prudnikov, V. E. Academician P. L. Čebyšev and the
Russian school. Akad. Nauk SSSR: Trudy Inst. Istorii
Estestvoznaniya 3, 117-135 (1949). (Russian)

Source: Mathematical Reviews, 1950 Vol 11 No. 8

Prudnikov, V. E.

Prudnikov, V. E. / New materials for the biography of P. L.
Cebyshev. - Uspeni Matem. Nauk (N.S.) 4, no. 2(30),
173-175 (1949). (Russian)

Source: Mathematical Reviews

L 05448-67 EWP(c)/EWI(m) WH

ACC NR: AP6030773

SOURCE CODE: UR/0363/66/002/009/1626/1629

AUTHOR: Pavlushkin, N. M.; Al'takh, O. L.; Prudnikov, V. N.

ORG: Chemical Engineering Institute im. D. I. Mendeleev (Khimiko-tekhnologicheskiy institut)

TITLE: Paramagnetism of Dy³⁺ and Gd³⁺ ions in silicate glasses

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 9, 1966, 1626-1629

TOPIC TAGS: dysprosium, gadolinium, silicate glass, paramagnetism

ABSTRACT: The purpose of the study was to determine the effect of the concentration of paramagnetic ions and temperature on the magnetic properties of glasses containing Gd³⁺ and Dy³⁺ ions. The magnetic susceptibility of the glasses was measured by the Faraday method in the 80-750°K range at a magnetic field strength of 15000 Gs. The experimental values of the effective number of Bohr magnetons for Dy³⁺ and Gd³⁺ were found to be close to the calculated ones, indicating that the paramagnetism of the glasses containing Dy³⁺ is related not only to the spin moment but also to the orbital moment, which is not frozen by the inhomogeneous electric fields created by the ions of the framework. The data show that a change in the concentration of the paramagnetism carriers in the glass composition has practically no effect on the magnitude of the magnetic moment; this is because the Dy³⁺ or Gd³⁺ ions are in a state in which the interaction between the paramagnetic ions is weak, i. e., the glass framework is

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UED: 666.01:538.113

L 08448-6/

ACC NR: AP6030773

a strongly dispersive solvent. Some additional silicate glasses containing several rare earth elements were studied, and Wiedemann's additivity law was found to apply to them. The use of this law permits one to determine in advance the magnetic susceptibility of such glasses. Orig. art. has: 2 figures, 3 tables and 5 formulas.

SUB CODE: 07,20/ SUBM DATE: 10Nov65/ ORIG REF: 002/ OTH REF: 001

Cora 2/2

BUKOV, V. M.

"Pedagogical Inheritance of Chebyshev," Priroda, No. 7, 1940;
"The Moscow Mathematical Society and P. L. Chebyshev,"
Priroda, No. 4, 1949.

PRUDNIKOV, V. YE.

"USSR/Physics - Ballistics

Jul 50

"F. L. Chebyshev and Artillery Science in Russia
in the 19th Century," V. Ye. Prudnikov

"Priroda" No 7, pp 75-81

Discusses Chebyshev's interpolation formula and
his investigations into the theory of proba-
bility and their application to firing.

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